

REMARKS/ARGUMENTS

Claims 20 – 36, 38 and 39 are pending in the application.

The Examiner is thanked for his helpful comments regarding informalities in the specification and claims, which have all been addressed. In addition, a new abstract is being submitted herewith to replace the previous PCT abstract.

The Examiner is also thanked for a telephone interview on October 8, 2003 and his confirmation that those claims not specifically rejected over the Kahn reference should be allowable. In conformity therewith, independent claim 20 has been amended to incorporate the features of claim 37, which was not rejected over the Kahn reference. In addition, claim 20 has been amended to address the Examiner's 35 U.S.C. 112 rejection, as well as to correct a typographical error (actuating to activating) and for the sake of consistency with the specification of the instant application.

Although it is respectfully submitted that claim 20 as amended should now be allowable, the following comments are offered.

As amended, claim 20 now contains the feature, from previous claim 37, that the energy of the electromagnetic radiation is greater than an energy gap of the at least one layer. This additional feature is necessary in order to produce, with the electromagnetic radiation, charge carriers in the at least one layer. It should be noted that not all electromagnetic radiation is in a position to produce charge carriers.

With regard to the Kahn reference, this patent discloses a method of activating

nitrogen acceptors in a II-VI semiconductor in a rapid heating unit that is operated with heat lamps. In contrast to the present invention, with Kahn the semiconductor wafer is not heated to a temperature above a decomposition temperature of the wafer. The temperature of 700 to 900°C is below the decomposition temperature of the specified II-VI semiconductor wafer. It is respectfully submitted that although Kahn provides a silicon dioxide cap layer, which serves as a diffusion boundary layer, the use of such a layer does not teach or suggest that the peak temperature during the thermal treatment is above the decomposition temperature of the semiconductor wafer. It should be noted that cap layers are customarily used at much lower temperatures, i.e. below the decomposition temperature, since an out-diffusion of elements can already occur at low temperatures.

It is furthermore respectfully submitted that with Kahn the radiation of the heat lamps, which could also be designated as electromagnetic radiation, produces no charge carriers, as required by claim 20 of the instant application. And of course, with the feature now incorporated into claim 20 from original claim 37, this claim requires that the energy of the electromagnetic radiation be greater than an energy gap of the at least one layer in order to provide the desired production of charge carriers.

In view of the foregoing discussion, it is respectfully submitted that all of pending claims 20 – 36, 38 and 39 should now be allowable. However, should the Examiner have any further comments or suggestions, the undersigned would very much welcome

a telephone call from him in order to discuss any outstanding issues and to expedite placement of the application into condition for allowance.

Respectfully Submitted,



Robert W. Becker, Reg. No. 26,255
for applicant(s)

ROBERT W. BECKER & ASSOCIATES
707 Highway 66 East, Suite B
Tijeras, NM 87059
RWB:mac

Telephone: (505) 286-3511
Facsimile: (505) 286-3524